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THOMAS G. NEWMAN,  
EDITOR.

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## Editorial Buzzings.

**Canada** has realized but a poor honey crop this year, on an average. In some localities there was a liberal yield; in others, but little was gathered. This is a summing up of the reports received at this office.

**The Corn Palace** at Sioux City opens on Oct. 1, and closes on Oct. 17. What arrangements have been made for an exhibit of honey? We have heard of none. There certainly ought to be an apiarian exhibit there.

**August** was a good month for the apiarists in some localities. The Nebraska *Bee-Keeper* says that it was the best month in the year in that State—giving "more honey and more swarms." In other localities no honey worth mentioning has been gathered since June.

**The Accident** which happened to Mr. F. H. Macpherson, assistant editor of the *Canadian Bee Journal*, several months ago, has proved itself to be more serious than was at first anticipated. The last issue of that periodical contains the following notice:

Latest reports from Mr. F. H. Macpherson, say that he has not yet recovered. He has severed his connection with the D. A. Jones Co., and also his assistant editorship of the *Journal*. We hope a few months more rest will restore him to his former vigor.

**Ground Cork** is superior to chaff for cushions to cover frames during Winter. It absorbs more moisture than chaff, and retains the heat. It does not become moldy, and is quite inexpensive. It can be obtained at this office.

**The Honey Crop** is not abundant this year anywhere. *Gleanings* for Sept. 1 gives us the following item: "A correspondent writes: 'Only a small portion of the California bee-keepers are happy this year, as the honey crop is almost an entire failure. San Diego County,' he adds, 'sends in the best report; but there is only one-fourth of a crop for other sections.' While this is discouraging for California bee-keepers, it means a stiffening of prices on *eastern* honey—a fact that our producers should bear in mind, as well as commission merchants."

**As a Trade-Mark** for honey, there can be nothing better than excellence of the commodity, with a nice label, giving the apiarist's name and address.

**Beebee Beebee** is the name of a resident of Beeville, Bee County, Texas. That State is a great country for bees, and it is no wonder that Bee County should have so many bees in its hive of industry.

**The Union** is again on top! The lawsuit at Canton, Ills., is ended! The enemies of the bees had no case, and the Judge kicked it out of court. The facts were detailed on pages 41 and 74 of this volume. The attorneys for the Union give these details of the case:

At the request of Mr. Cole we write you concerning the outcome of the most wicked conspiracy against him, and the great interest of bee-keeping in this part of the country.

At the commencement of the present term in our Circuit Court, Mr. Shaffer and his minions were on hand, ready to annoy and perplex the defendant, and by a great show of eagerness to reach the case, and also to secure an indictment by the grand jury, endeavor to "bluff" him and induce him to abandon his defense.

Matters stood thus until the commencement of the call of the criminal docket, when a change of base was made and different tactics were employed. When the case was reached on the docket, all that was necessary was to call the attention of the court to the statute under which the persecution was commenced, together with the citation of an authority or two, of which we had a most comprehensive brief, and he at once told the State's attorney that the suit could not be maintained, and ordered that it be dismissed. Even the attorneys who appeared before the justice, admitted, in the face of these, that no action could be maintained. And thus ends the most miserable apology of a prosecution with which Mr. Cole has been inflicted.

It may not be out of place to say that had it not been for the persistent efforts which were made, the result would have been otherwise. We devoted a great deal of time and attention to this matter, and were prepared to make a bitter struggle. They also endeavored to get an indictment against Mr. C., but in this they also failed. With this farcial ending, the celebrated bee case terminated.

**Burr-Combs.**—The Missouri *Bee-Keeper* says that thick top-bars are a great improvement; and although there were a few brace-combs—or, as we now distinguish them, burr-combs—there were not enough to justify the use of a honey-board.—*Gleanings*.

**Chicago Exposition.**—The Nineteenth Annual Exhibition of the Inter-State Industrial Exposition was opened yesterday, Sept. 16, and will close on Oct. 24. The great building has been completely and fully decorated, and all available space allotted to intending exhibitors, for what promises to be the most complete and magnificent exhibition in its long history.

The Cook County Agricultural and Horticultural Society, with a prize list running into the thousands of dollars, have undertaken a floral display that has never been equaled in this country.

In the building will be also exhibited an exact reproduction in miniature of the Buildings and Grounds of the World's Columbian Exposition, with magnificent electric effects; covering as it does a space of 5,000 square feet, it is one of the wonders of modern mechanical art, and will be worth a journey to see.

The Lincoln Log Cabin Association will also be exhibitors.

All railroads transport passengers at excursion rates.

**Winter Clamp.**—Mr. A. Newland thus describes his clamp for wintering bees, in the *Orange Judd Farmer*:

Dig a trench in the ground deep enough to allow the hives to be below the surface of the ground, and wide enough to receive two rows of hives. Set the hives into the trench, making the two rows face each other. Open the tops a little, screening the openings to keep out mice, etc. Lay timbers across the trench, and cover it over with boards. Place a ventilating tube at either end of the trench, making one taller than the other. These can be made by nailing fence boards together. They should be screened also. Pile straw on the board cover of the trench, and throw up dirt around this like a potato pit. The bees will live upon half the honey required to winter them when unprotected, and very few will die, therefore you will have early and large swarms. This is the most successful plan I have tried. In Iowa, when 75 per cent. of the bees died, I lost none. I have kept bees thus four months without lifting.

**Golden-Rod**, for the National Flower, was the choice of the Lady Managers of the World's Fair, at their meeting on the 9th inst., like the rose of England, the lily of France, the sham-rock of Ireland, the thistle of Scotland, and the leek of Wales.

The rich yellow bloom of the gorgeous golden-rod, took precedence of the three other flowers—the sunflower, the trailing arbutus, and the clematis. The golden-rod was the favorite of Mrs. Cantrill, who maintained that it typified American citizens in several ways. "It makes glad the waste places," she said, "and blooms cheerily in rich and poor soil. The golden-rod favors no particular place, but rears its beautiful blossoms in every State, in the dry atmosphere of Arizona, and on the bleaker plains of the extreme Northwest. It never wilts, for its stem, loaded with glorious blossoms, is firm, and withstands the severest storms. This is why it is indicative of the nature of the American citizen. It bends before the storm, and arises again in all its beauty, and bids defiance to the winds. It gives its golden blossoms to the arid plains, and extends its beauty to places forgotten by the human race. And wherever it rises above the soil, it breathes its fragrance all around."

This is also the choice of bee-keepers, and they admire the good sense of the Lady Managers in their appreciation of the beautiful golden-rod. We hope the Lady Managers, at their next meeting, will decide to press its adoption as the National Flower of the United States.

**Siam** has decided to make an exhibit at the World's Fair at Chicago, which shall eclipse the one it made at the Paris Exposition, where it carried off the honors in the oriental section.

**Honey** should not be sent by express unless the distance is very short. It costs 3 or 4 times as much for transportation, and is handled just as roughly as if sent by freight.

**The Detroit Exposition** was held as usual in the last week of August. We expect soon to present a description of the honey exhibit to our readers. Meanwhile here is an amusing item concerning one of the exhibitors, which appeared in the *Detroit Tribune* of Aug. 24, and has been copied into many other papers since that. It reads thus:

A tall man, with bushy, black whiskers, entered the Cadillac Hotel, and, while he was registering, placed a long, narrow valise on the counter. A spring in the valise seemed to have given away, and a little door at the side suddenly flew open, disclosing to the eyes of the bystanders thousands of bees on a honey-comb.

There was a small stampede among those standing about the counter at first, but all fears were allayed when the tall stranger explained that "they couldn't get out, and wouldn't do any harm if they did."

He then delivered a short lecture upon the bee and its habits, that proved very interesting, and drew quite a crowd for a few minutes.

He said that his name was J. F. Michael, from German, Ohio, where he has a large bee-farm. He is here visiting the Exposition, and brought his box of fine Italians that he might compare notes with some of the exhibitors.

When some one asked him to show the queen, Mr. Michael dived into a capacious pocket and produced a handful of little boxes, each of which contained half a dozen worker-bees and a queen.

"Great guns! man," exclaimed a traveling man, "are you a walking bee-hive?"

"Oh, no," he responded, "by no means. These are just a few of my pets that I carry around to show the people. You see each one of these little boxes has a queen in it. They are somewhat particular as to their society, and I have put these other fellows in to keep them company."

**Polygonum**, also called heart's-ease, black-heart, or smart-weed, in most localities of the latitude of Illinois blooms by the middle of August. It is a good honey-plant, belonging to the buckwheat family, and yields a white honey of sharp flavor, disliked by some persons.

**Illinois Bee-Keepers'** interests are located with the horticulturists in the coming World's Columbian Fair. The Committee on Horticulture for Illinois met in Chicago on the 9th inst., to consider the needs of the several departments.

Representatives of the several divisions of the Horticulture Society of the State were present, together with the World's Fair Committee of the State Horticultural Society. They discussed at considerable length the proposed exhibit, and determined upon its scope. The information obtained will be submitted by the committee to the commission at its October meeting. Owing to the limited area assigned to Illinois, it will be necessary to restrict the exhibit so far as growing trees are concerned.

The committee will recommend the appointment of a Superintendent of Horticulture for the State at large, and an assistant for each of the three grand divisions, with suggestions as to the amount of their compensation. The sum of \$40,000 is asked for the expenses of the department.

**This** is one of the many excellent recipes in the Honey Almanac for this year, and is called the "Honey and Tar Cough Candy":

Boil a doublehandful of green hoarhound in two quarts of water down to one quart; strain, and add to this tea two cups of extracted-honey and a table-spoonful each of lard and tar. Boil down to a candy, but not enough to make it brittle. Begin to eat this, increase from a piece the size of a pea, to as much as can be relished. It is an excellent cough candy and always gives relief in a short time.

We have tried the above recipe and know it to be excellent for a cough, that one has when getting over that terrible Russian malady—*la grippe*.—EDITOR of the *Southern Horticulturist*.

We cheerfully commend this remedy to Bro. Root, who is now having a tussel with that monster,

**Soil** has much influence upon nectar secretions in flowers. A correspondent in the *Prairie Farmer* states an interesting point in this direction, as follows:

A bee-keeper—a close observer of nature—told me of late that he noticed bees working continually on a patch of white clover, on sod which had not been disturbed for a long time, and adjacent to it was a patch on ground that had been thrown out in laying the foundation for a building, and he never noticed a bee upon it, thus showing that good, moist, rich land produces honey from clover, while hard, sandy land does not.

**This is What** the Western *Plowman* remarks concerning the latest invention for bee-keepers:

Our bee editor, C. H. Dibbern, has invented a new and successful "bee-escape," and is thus keeping abreast of the times, and in harmony with the spirit of the age which demands something better to-day than we had yesterday.

Mr. Dibbern is an enthusiast on apiculture, but he is something more. He is practical and progressive. He thinks, studies, investigates and tests; and, in consequence, when he arrives at a particular result, the chances are that it is as near right as can be secured.

**Adam's Bees** have come to light at this late day. *Revista Apicola*, the Spanish bee-periodical published in the Island of Minorca, says that Prof. Herr, of Zurich, has discovered 844 species of fossil insects which date back to the tertiary period. Among these is found a bee, well preserved, which has been added to the museum. Its size is half that of the present bee. Its tongue, wings and abdomen are well defined, and also its composite eyes and two simple ones. Prof. Herr has named it *Apis Adamitica* (bee of Adam), and he considers it the progenitor of the present bees.

**The Little Busy Bee** was not well rewarded for diligence this year. The crop is not over one-fourth of an ordinary out-put.



## Queries and Replies.

### Wedges or Screws for Holding Sections.

QUERY 784.—1. Where a person uses a section case with solid sides and ends, and a slat bottom, is it advisable to have it large enough to have a follower to key up the sections; if so, which is best to key up with, wedges or set screws? 2. If wedges, how should they be made to have them easily removed? 3. If set screws, which are best wood or iron, taking into consideration cost and convenience?—Iowa.

1. Screws. 3. Iron, if properly made, with large, wide thread.—R. L. TAYLOR.

1. I do not like such a section case, and have had no experience with wedges, etc.—G. M. DOOLITTLE.

1. Use a follower with set screws, but the question is not indisputable. 3. Wooden screws.—DADANT & SON.

1. Yes. Wedges are the best. 2. They should fit into a wedge-shaped groove in the follower.—G. L. TINKER.

1. Yes; unless everything is very exact, I should prefer set screws and a follower. 3. Wood, boiled in oil.—C. H. DIBBEN.

1. Yes, by all means. Use wedges. 2. A little experience will determine the proper size. 3. Wood is better every way.—M. MAHIN.

1. I have tried wedges, and like them. 2. The wedges I use are really not wedges at all, but straight sticks big enough to crowd in.—C. C. MILLER.

1. No. Do not use any follower. 2. Set screws are very much superior to wedges. 3. Wood are best, because cheaper, and operated faster.—JAMES HEDDON.

1. I prefer wedges. 2. Make the followers wedge-shaped, and the wedges with the same slant. 3. If I were to use screws, I should prefer wood.—A. B. MASON.

1. I do not use a follower, and have no trouble to remove filled sections from the kind of case to which you refer. If you must use one, use the wedge to key it up.—J. P. H. BROWN.

1. I think it advisable to use a follower, and key up with wedges. Simplicity is a good rule in the apiary. 2. The

wedges should be thin. 3. I think wood is best, although I have never used iron.—A. J. COOK.

1. Wedges. 2. With a little projection, so that they could be loosened with a tap from a hammer. 3. Iron, unless made like Heddon's, so that they could be thrown in Lake Michigan and not swell.—MRS. L. HARRISON.

1. I do not consider it necessary. One advantage in keying up is to drive the sections so close together that propolis cannot be pushed between them. Wedges answer the purpose very well. 2. I use, principally, broken sections, split into narrow strips.—EUGENE SECOR.

1. I should key up with wedges in all cases. They are less expensive than screws, and are not affected by changeable temperature. 2. It will not require much inventive genius to make a few wedges that will answer the purpose, and be easily removed. 3. I think iron would be preferable, both in the matter of cost and convenience.—J. E. POND.

1. I do not want a "follower" in my section cases. They add to the number of loose traps to take care of, and to the work of cleaning. I decide what width of section I want to use, and make the cases just right to take them, using a slip from a section as a wedge to tighten up the sections. "Thumb screws" make too much "fixing" to my taste. I do not like slats at the bottom of my cases. They are hard to clean, and smash bees.—G. W. DEMAREE.

1. Either may be successfully used according to the notion of the apiarist, and the operator being accustomed to their use. 2. If the follower and wedge are of the same bevel they will hold all together more perfectly, and also may be readily removed. 3. Wood screws are cheaper, and will answer every purpose.—THE EDITOR.

**Texas** will have an exhibit costing \$300,000 at the World's Fair. In a circular the committee remarks thus:

Texas must not fail to participate in an exhibition costing nearly fifty millions of dollars; one in which every nation and commonwealth in the world will be represented, and where she can show her vast resources to fifty millions of visitors, which means in five years a million new people, and five hundred millions more money to circulate in our State.

### Telling It to the Bees.

Out of the house where the slumberer lay  
Grandfather came one Summer day,  
And under the pleasant orchard trees  
He spake this wise to the murmuring bees :  
"The clover bloom that kissed her feet  
And the posie bed where she used to play  
Have honey store, but none so sweet  
As ere our little one went away.  
O bees, sing soft, and bees, sing low,  
For she is gone who loved you so !"

O gentle bees, I have come to say  
That grandfather fell asleep to-day,  
And we know by the smile on grandfather's  
face,  
He has found his dear one's hiding place.  
So bees, sing soft, and bees, sing low,  
As over the honey fields you sweep ;  
To the trees a-bloom and the flowers a-blow,  
Sing of grandfather fast asleep.  
And ever beneath these orchard trees  
Find cheer and shelter, gentle bees.

## Topics of Interest.

### Peculiarities of Abnormal Bees.

PROF. A. J. COOK.\*

Monstrosities among plants or animals possess a greater interest now than formerly. Since the theory of Progressive Development has become the working theory in every biological laboratory, abnormal characteristics like those to be herein described, are viewed with exceeding interest. They may be cases of arrested development, or possibly of acceleration, where organs, usually abortive, have attained a larger growth. As if by extreme atavism we had a glimpse of an earlier condition before the organ was whittled away, before the agency of non-use or ill-adaptation had weakened or destroyed them. We now look at any case of abnormality among any group of organisms, as possibly a key to some important organic solution, and so very worthy of study and record.

Bees offer excellent opportunity for such observation and study, as the observant bee-keeper has opportunity to study thousands of specimens in a short space of time. Thus we should not be surprised that curious malformations are not infrequently discovered.

\* Read before the Biological Section of the American Association for the Advancement of Science, at Washington, D. C., Aug. 21, 1891.

It is my purpose at this time to describe several malformed bees which I have examined, and which are now in the collections at the Michigan Agricultural College.

During the past season, I received from Iowa, and a little later from Wisconsin, some cyclopean bees, in so far that they had but one eye and no ocelli. These bees in the conformation of the head, mouth-organs, antennæ, legs and abdomen, are normal workers, but instead of two eyes on the sides of the head, and three ocelli on the vertex, there is but one eye. This is crescentic in form, and is situated symmetrically and centrally high up on the epicranium. The highest or central portion of this eye is about as wide as is the vertex back of it. The horns of the crescent are quite acute, and reach down on the sides of the head, to a point opposite the attachment of the antennæ. The eye is normal in respect to its dense covering of hairs. In most cases, this single eye is uniformly rounded behind, though in one specimen from Wisconsin, and two from Iowa, there is a sharp angular projection high up, behind, which fits into a corresponding emargination in the central anterior border of the vertex. In one or two others there is a slight central posterior projection, but not a sharp angle, as in the cases just referred to.

I received eight such bees from Wisconsin, and six from Iowa. All in each case were from one hive, and so the progeny of the same queen.

Another peculiarity which I have studied, also relates to eyes, but here it is confined to the drones. These male bees were from Florida, and all from a single hive, and so had a common mother. I think all the drones of this hive were alike abnormal. In these drones, the eyes were entirely destitute of pigment. Not only the eyes, but the hairs borne upon them, are entirely white. The three ocelli are likewise without color. The hairs on the face are also lighter than we commonly find them, though I could not see that the remaining hairs of the body were thus marked. We thus see that these drones in respect to eyes are albinos. It is interesting to note that they were from one queen. I think cases are not rare, where two or more offspring of a single parent, among higher animals—even among children of the human kind—are albinos.

Albino insects are not common, though I have seen albino crickets, *Gryllus luctuosus*, and have in our collection an

albino cockroach, *Platamodes Pennsylvanica*. Sports, however, in the direction of albinism, are quite common among bees. Thus, all the races of our honey-bees frequently show specimens which are conspicuously ringed with white hairs. This is a marked peculiarity of the Carniolan variety of the German race. Enterprising breeders of bees have taken advantage of such sports among Italian bees, and by selection in breeding, have established a well marked variety known as the Albino bees. If albinism is a diseased condition, in which the tissues fail to secrete pigment, and if by breeding it can be continued and even fixed, as the above seems to indicate, then surely some diseases are hereditary. This fact has interest bearing on the intermarriage of albinos, and the social questions involved.

I believe there are no truly monœcious insects, no real hermaphrodites in this subclass of arthropods. There are, however, not uncommonly, bees that are in some respects like males, and in others like the workers, or abortive females.

As is well known, the male or drone bees differ very decidedly from the workers or undeveloped females. The males have toothed mandibles, short maxillæ and labium, eyes that meet above, ocelli thrown forward, robust abdomens, and legs without the pollen baskets.

On the other hand, the mandible of the worker is untoothed, the maxillæ are long, the ligula very long, the eyes do not meet above, and the ocelli are thrown back on the vertex; the abdomen is more slight than in the drones, and on the outside of the posterior legs are the curious modifications for conveying pollen.

Thus it will be seen that there are many characteristics that enable us quickly to distinguish the drone bees from the workers, aside from the actual reproductive organs.

Now, it is common, or not rare, to find bees that combine these characteristics—that is, in some respects, the bees will be like drones, in others like workers; though, in nearly all cases, I think the real sexual system will be either male or female, and will generally, if not always, correspond with the abdomen. If the abdomen is robust or heavy, we find no sting, a peculiarly female appendage, but do find the male reproductive organs. While if the abdomen is slight, we find a sting and abortive ovaries, which are always present in the worker-bee.

Aside from this constant arrangement—agreement of style of abdomen and

sex organs—I have specimens to illustrate nearly every combination: Drone head and thorax, and worker abdomen; drone eyes, and worker mouth organs, thorax and abdomen; worker head and thorax, and drone abdomen, and so on with almost every conceivable combination, even to one entire side, which is drone, and the other side worker, until we reach the abdomen, when all is worker.

I have observed this fact, that when a colony gives us one of these bees, it is pretty sure to give us several. Thus, it would seem that the malformation comes through some lack or diseased condition of the parent bees.

It is positively known that the male, or drone bee, is the result of agamic reproduction. In other words, the unimpregnated bee egg will develop, and always produces a male. Thus, some workers, called laying workers, cannot mate, but do lay eggs. These will develop and always produce drones. Queens often lay eggs before mating, which develop into drones. Old queens often become drone producers, as the spermatheca becomes empty of sperm-cells. The microscope never finds sperm-cells in the eggs that are placed in drone-cells. Thus, we believe that a queen can and does voluntarily control the passage of sperm-cells from the spermatheca as the egg passes by. If to be placed in a worker or queen-cell, she opens the door of the spermatheca, and the ever-active spermatozoa push out to become incorporated with the egg, and we have a female. If, on the other hand, the door is kept closed, no sperm-cell passes, and a drone is the result.

The amount and quality of the food fed to the drone and worker, is not much different, so we have every reason to believe that the fact of impregnation determines the development, so that female or male is the result. Both von Liebold and Leuckart state that they found several sperm-cells in a single bee egg.

If this be true—and it surely seems likely, for how could a queen control so delicate an organization as the spermatheca, so as to let but a single cell pass—then may it not be that more than one sperm-cell is required to impregnate the egg so as to produce a female, and that owing to a faulty organism, even some drone eggs—eggs that will produce drones—received a single sperm-cell (or may be more), and thus, through partial impregnation, we have these apparent hermaphrodites! It is, however, the commonly accepted belief among scien-



tists to-day, that only one sperm-cell enters the egg in any case of successful impregnation.

Were it not that investigation seems to make it certain that in vertebrates only one spermatozoa passes into the egg, we should wonder if it might not be true that the number of sperm-cells, few or many, did not determine sex in higher animals, the few producing males, and more females.

Agricultural College, Mich.

### Storing Honey, Honey-Plants, Etc.

S. L. WATKINS.

One of the best planned honey-houses I ever saw belonged to Mr. Adam Warner, of Clarksburg, Yolo County, Calif. It was a two-story building, size, about 12x30; the outside boarded with rustic, the inside lined with flooring, tongue and groove, which made a house perfectly bee-tight. The cost, he informed me, was about \$300. The upstairs part of the building he used for a workshop, where he put his hives and one-piece sections together. The lower part of the building was divided into two rooms; one room was for storing honey and preparing it for market, the other a kind of a wax-room where he melted his wax, and where he intended making his comb-foundation.

He had quite a novel arrangement for keeping ants out of the honey-house, which he assured me worked first rate.

He had the foundation posts of the building setting in small cans of tar. (He had taken an ordinary five-gallon oil can and cut it off about four inches from the bottom, making a can almost four inches deep.) The building stood up off of the ground about two feet; eighteen inches of that distance was mason work, and the other six inches foundation posts, resting in cans of tar.

I asked him if the ants would not crawl over the tar after it became hardened with the influence of the weather, and he informed me that they would not; he said that once a month he stirred the tar up a little with a stick.

I think it is the smell of tar, more than their fear of crawling over it, that keeps them from crossing.

I looked well while I was there to see if I could find any ants attempting to cross it, but I did not notice any.

#### HONEY-PLANTS OF SACRAMENTO VALLEY.

The bee-pasturage in the Sacramento Valley is getting better every year, as

more land is being set to alfalfa and fruit.

I find that the principal honey-plants of Sacramento, Yolo and adjoining valley counties are wild grapes, wild rose, swamp willow, alfalfa, clover, Spanish-needle, sycamore, several different varieties of mint, fruit bloom, corn, wild chicory, button bush, white button willow and Canada thistle.

This last, the Canada thistle, has got a pretty good start in that country in the pastures and waste pieces of land. Canada thistles are excellent honey-plants.

The levees in that section of the country have a thick set growth of alfalfa on both sides, which, it is claimed by some, help to strengthen the levees against the high waters in the Winter time, while by others it is claimed that growing alfalfa on the sides of the levees is a nuisance and a damage; that the gophers tunnel the levees searching for the roots of the alfalfa, and thus undermine it, and make it insecure against the high waters.

Last Winter, and until late in the Spring, the bee-pasturage was flooded with water, and bees did not do very well this last season.

Mr. Warner has his apiaries elevated from the ground from 8 to 12 feet. He has a good strong platform made, which is about six feet wide at the top. He places about 50 hives on a platform. All the hives set side by side, and all are painted red, and he tells me that the bees never have any trouble in discerning or finding the right hive. Underneath the platform I saw where he had taken off a great number of combs, where the bees, after filling their hives, had commenced building out in the open air. Colonies had built side by side, and I suppose on warm days the bees of one colony must have surely intermixed with the bees of another.

If bees were inclined to rob in that location like they do in some places, the bee-keeper would have endless trouble by the colonies building out in the open air, but Mr. Warner informs me that he has never been troubled by bees robbing. They always seem to have sufficient pasturage to keep them out of mischief.

I asked him if he did not lose a good many queens by having the hives set so close together, and he informed me that he rarely if ever lost a queen that way.

All his hives are the Harbison style, and open at the top and back. We opened several; they all seemed to have an abundance of bees and honey. All Mr. Warner's apiaries were surrounded



by water until late in the season this year, and as a consequence a great many bees were lost in the water.

Mr. Warner keeps from 250 to 300 colonies of bees, all of them elevated from 8 to 12 feet above the ground.—*Rural Press.*

Grizzly Flats, Calif.

## Eastern Kentucky for Bee-Keeping.

W. W. DUFFIELD.

I am not a professional bee-keeper, but have kept a few colonies for the pleasure of studying their peculiarities, and to this end have given all the time I could spare from the somewhat active profession of a civil engineer. My present apiary is limited to 2 colonies of five-banded Italians, and one nucleus of the new black, or Punle, bee.

This mountain region of eastern Kentucky is admirably adapted to bee-keeping. The latitude of Pineville is 36° 44' north, but it has a much milder climate than its latitude warrants. At the base of the mountain both flora and fauna are subtropical. The pecan nut and scuppernon grape both ripen in the valley, but the summits of the mountains are covered with the sugar maple and balsam fir of Lake Superior. The opossum, wild cat, large glow worm and black scorpion are found in the valley, but on the summit of the mountain the lynx and porcupine live among the rocky cliffs.

Between the flora at the base and the summit of the mountains, there is an interval of nearly three weeks in the matter of bloom. The white clover at the base of the mountain blossoms as early as April 10, but is not found in bloom at the summit prior to May 1. The mountain sides are still covered with a heavy growth of forest, with the poplar or tulip tree, the basswood or linden, the service berry, the persimmon, wild cherry, wild plum, maples, and chestnut, all of which furnish abundant forage, and as they blossom successively for a period of three weeks between the base and summit of the mountains, this gives a much longer period in which to gather this rich harvest.

The mild climate of the Upper Cumberland Valley is due to the peculiar topography of that region. The valley lies nearly east and west, and thus receives the early morning and late evening sun of Winter, and the high peaks of the Kentucky Ridge—the divid-

ing crest between the Kentucky and Cumberland Rivers—interpose their broad shoulders between the cold winds of the north and this sheltered valley, and turn them westward to bear their ice and snow down the Mississippi Valley as far south as the plains of Texas.

I have frequently, in a ride of thirty miles in the saddle, passed from mid-winter to midsummer, leaving the Red Bird (a tributary of the Kentucky River) still covered with snow, and with eight inches of ice upon the streams, but on crossing the Kentucky Ridge, and descending its southern slope, have found the Cumberland Valley not only free from every vestige of ice and snow, but the air mild and warm, and filled with the insect life of Summer, dancing in the bright sunshine.

Bees abound in this region, both wild and domesticated. Every settler has them, and some settlers have several hundred colonies. Their method of bee-keeping is of the most primitive character. Except my own, no movable-frame hive is known in this region, and the bees are all the common black bee, captured originally in the forest.

The hives are the hollow log of the sweet gum tree, with a plank cover on top kept in position by a heavy stone, and plastered about the sides with clay. Whenever honey is desired the bees are subdued with smoke, the stone removed, the top taken off, and the required honey cut out from the upper portion of the hive. This, in mountain parlance, is known as "robbing the gum." Living among these people, but not with them, occupying my own tent and camp, and constantly on the move, I have always procured honey at all seasons of the year, and while watching this primitive method of robbing the bees, have gained two valuable items of knowledge, to-wit: the correct width of bee-space, and a safe method of wintering on the summer stands.

Whenever a "gum" was being "robbed" for my benefit, I have carefully measured the distance separating the sheets of comb. No matter whether these sheets were in a straight or curved line, they were invariably parallel with each other, and never greater than  $7/16$  of an inch, nor less than  $5/16$  of an inch apart. The mean of these distances is  $3/8$  of an inch, and as this interval permits bees while crawling over two adjacent combs to pass without colliding, I am very confident that  $3/8$  of an inch is the correct bee-space.

In the Kentucky River Valley the Winter is more severe, and the cold more

intense than that of the Cumberland, and the Kentucky River bee-keepers lose more colonies in Winter than their Cumberland neighbors. The success or failure with bees in both valleys is regarded as a pure matter of luck. If the Kentucky River men have good luck, their loss in Winter will not exceed 10 per cent., but if their luck has been bad, their loss may be from 50 to 75 per cent.

In the Cumberland Valley, where ice is seldom seen, and the thermometer rarely falls below 30° above zero, the bee-keeper's luck in wintering is much better, the loss seldom exceeding 1 per cent. But the Winter of 1886 was an exceptionally severe one in the Cumberland Valley, and on the night of Jan. 23 the thermometer fell to 16° below zero, and continued at that point for three consecutive days. Every Cumberland Valley bee-keeper had bad luck that year, and the loss was between 75 and 80 per cent. But in the Spring, when the dead bees were being cleared out, and the combs melted into wax, I noticed this remarkable fact: Those colonies which had not been robbed at all, or only in the early Summer, were all dead. They had not starved, as all had a liberal supply of sealed honey still left. But those colonies which had been robbed late in the Fall invariably came through all right, and, strange as it may seem, they were the only colonies which survived the Winter. There was no exception to this rule in both the Kentucky and Cumberland Valleys.

I can account for this remarkable fact in this manner alone: Wax is a non-conductor of heat, and in the unrobbed hives the sheets of comb separated the bees into thin layers, and spread them over a large surface. They could not mass together in sufficient numbers to keep the temperature above the freezing point (32° above), and were therefore all frozen. But where the hives had been robbed in the Fall, the bees had been unable to replace the loss. Hence, there were no sheets of comb in the top of these hives. The space robbed of its comb and honey formed a clustering chamber, where the bees could mass together, without being separated by sheets of comb, and thus keep the temperature above the freezing point, and survive the period of cold.

If then, the lower portion of the hive, or brood-nest, is protected with double walls, and the intervening space filled with chaff or dry sawdust, and a clustering chamber above the tops of the frames provided in the super, or upper

portion of the hive, where the bees can mass together without being separated by the sheets of comb; and the space around and above such clustering chamber filled with closely packed hay or straw, and sufficient upward ventilation through the top of the clustering chamber and top of hive given to carry off the moisture of the bees' breath, without allowing too great a rush of cold air through the cluster of bees to chill them, I am confident that bees may be successfully wintered on the summer stands much better than by placing them in the cellar.

The necessary ventilation can be given by three holes, each one inch in diameter, covered with wire-gauze along the top of the clustering chamber, and each half an inch in diameter, with wire-gauze over the inside, such holes to be bored in the front and rear of the cap, and close to the roof-board, and by allowing 1½ inches of open space in the lower entrance. The super and cap, tightly packed with hay or straw, will prevent any rush of cold air through the cluster, but would allow sufficient to carry off the moisture of the bees' breath. In very severe weather, when the thermometer falls below zero, these half-inch holes may be partially closed with plugs from the outside of the hive, such plugs to have an eighth of an inch hole in the center.

Pineville, Ky.

## Colorado as a Location for Bees.

D. R. EMERY.

The best native honey-plants and flowers of California are being destroyed by plowing and too much irrigation. The cultivated flowers and many fruit-blossoms do not seem to have much if any honey in them. Along the larger streams it is rather foggy; and in other places, the ocean breezes are rather chilly for comfort.

In Colorado, the pure, light air, and much sunshine seems to give a spice and flavor to fruit and flowers, and exhilarating life to man. Here the more alfalfa and fruit are planted, the better will be the profit received.

Now, then, lovers of Colorado and bees, what is our duty? It is to let the world know of this God-favored land, and how to most simply and practically make a good honest living for a family, on a small amount of land. One self-supporting family on a town lot, or a few

acres near town or city, is worth more to such city and State than a whole basement or garret-full of the riff-raff and scum of the earth. Let us all theorize and practice, and then compile and publish the best ways and means of making a fair living and happy homes. This will help all around, and cultivate the good and useful in humanity.

From my experience and observation, I would take five acres as a standard homestead within two miles of town, plant two acres in alfalfa; the rest in fruit, principally apples and native plums.

Build the house near the front center, and intersperse the orchard with the stables, poultry and bee-houses. The same ground will raise fruit, poultry and bees. The chickens will help gather the bugs, worms and decaying fruit, and the bees will help fertilize the bloom, and collect and store hundreds of pounds of honey. Also keep a horse, two cows and pigs, and live like a true, independent American sovereign.

To lay by money, enlarge and cultivate the apiary. Gain knowledge and profit by careful practice, and diligent study of such papers and books as published by Newman, Root, Doolittle, and many others, as well as the bees themselves.

Do not start with more than you can handle well, and increase capacity with your bees. I believe the bee business is yet in its infancy, or at most in its teens.

There will be progress in the knowledge and science of bee-culture, in hives and bee-houses; in the art of increasing or decreasing swarming; in working for comb or extracted-honey; selection and mating of queens, from the quietest and best working colonies, and experimenting with importations and crosses. Colorado is making successful advance in these lines by individuals.

What we need is more concert of action, organization, the meeting and comparing of experiences. Let us encourage local clubs, and diffusion of knowledge. Tell non-producers and consumers what honey is good for, and what a cheap and wholesome medicinal food it is.

I know a lady, east of Colorado, who has been an invalid for several years, with what was called consumption of the stomach, caused by dyspepsia. Such eminent physicians as Dr. Agnew and others said she was past cure. She came to Longmont, Colo., and the first thing that her stomach seemed to relish and retain was honey. We let her have plenty of honey and light air, and some

seltzer water from Springdale. In three months she could eat almost anything, and had gained about thirty pounds.

Then if it is such an elixir of life and health, let us encourage the science and production of the sweet prepared nectar for "ye gods" of earth, and proclaim to the world the exhilarating and invigorating properties of Colorado's pure air, continuous sunshine, and delicious honey.—*Read at the Colorado Convention.*

### The First Bee-Escape Invented.

J. W. SILCOTT.

I send to the BEE JOURNAL Museum one of my bee-escapes and paper drawing of escape-board. It was patented in 1882, and advertised for a short time in the AMERICAN BEE JOURNAL.\*

I have used it, since that time, on from 40 to 60 colonies, annually, to get the bees out of the surplus cases. This year I have used it on 60 colonies, and have taken off about 2,000 one-pound sections. With the exception of 3 colonies, I did not carry into the honey-house over a pint of bees.

The bees, in a large number of surplus cases, after they are separated from the brood and queen, soon become restless, and pass out through the escape, in a few hours, into the brood-chamber. Some will take 12, and a few will require from 24 to 36 hours for all the bees to leave the surplus cases. The surplus cases on two of the three hives before mentioned, remained on the hives for six days, and each then contained about one-half pint of bees. There was no brood, nor could I find a queen. The bees in the third did not at any time show any restlessness, and very few left the case. I searched very carefully for a queen, but failed to find one, as I had expected to. These obstinate cases occur each year in about the same proportion, but I have failed to find out the cause.

I use this bee-escape on a hive, with an outer case covering the surplus case. To use it on a hive like the dovetailed, the bee-escape board would have to be made 3 inches longer than the hive, and the surplus case placed over in front, to bring the hole, indicated in the drawing, over the brood-chamber, and the bee-escape should be covered with a small two-sided box, to make it dark.

It can also be used directly under the sections, but I prefer using it at the end or side of the case, for I think the bees



leave the super sooner, and it also has the advantage of being easily examined, if anything is not working right. When I first commenced to experiment with bee-escapes, I found propolis and the pressure of the bees against the point of exit, two obstacles to be overcome; this I have done by the raised floor under the pivoted plate. Here I can let the escapes remain in place for three days before the bees commence to stick them with propolis; and the majority will be in working order if left on the hive a week. I am of the opinion that this patent covers all other bee-escapes described or advertised in the BEE JOURNAL, except the cone bee-escape.

I have written this simply to let others know that bee-escapes have been in use for years, and I think that this one is as good, if not better, than any of them. I have not made any effort to describe how these bee-escapes are made. Here the honey season ends about the middle of July, and it is a big job to remove the surplus, on account of robbing; but by the use of my bee-escape, it is a pleasure. Snickersville, Va.

[\*The advertisement was first published on page 221 of the BEE JOURNAL for April 2, 1884, and the bee-escape is as represented by Mr. Silcott. It is placed in our Museum for the inspection of visitors.—Ed.]

## Bees and Their Products.

D. CHALMERS.

There is quite a prevalent idea that bees convert the pollen into honey; some believe, too, that it is wax. Both principles are wrong. The bee in passing over the blossom in quest of nectar (which is unripened honey), becomes coated with pollen, and while on the wing from flower to flower brushes it from off the body with its "feathery-haired legs," in this the tongue also plays a part; it is then kneaded with its feet or claws (of which they possess six), and with the center pair placed in the basket, also used to carry propolis or bee-glue; this is gathered from the buds of certain trees for the purpose of sealing crevices in the hive.

The bee gathers the glue with its mouth, and passes it back to the basket in a similar manner that it does the pollen; in delivering the latter in the hive it merely thrusts its posterior legs

into the cell and dislodges the pair of little pellets with the same claws as put it there, or else with one hind foot dumps it out of the basket on the opposite leg, but at any rate she gives it no more attention, but some of her sisters who are doing inside work, come along and pack these pellets solid; it then goes under the name of bee-bread.

It is stored immediately around the nest of brood, as it is indispensable in that particular neighborhood, forming part of the preparation for the nurture of the larva, and in capping the brood cells its use is essential to make the capping porous, otherwise the nymph would die. I do not dispute but that the matured bees may use it as food, but honey is their chief diet.

When a colony of bees is disturbed, they are impressed with a fear of being robbed, and under this impulse rush to the cells to fill themselves with honey. On some such occasions I have found the bee-bread very much punctured, an evidence, no doubt, that it had been gulped by the bees in their excitement.

The propolis-laden bee is unable to unload, but makes for wherever it supposes its ware is likely to be required, and those that are glueing it, being in want of more propolis, seize it from the passing bee, which continues her tramp, leaving a string between the glue remaining in the basket and the mouth of the bee that made the grab, which, by the way, is the sole cause of some comb-honey having a reddish tint.

What I have written is mostly from practical knowledge, and it is now left for the reader to compare and judge between the propriety of this and the prize essayist theory.

The bees are divided into three classes—the queen, the drones, and the workers. The latter may again be subdivided into several distinct classes, viz.: The wax-worker workers, the nurses, the honey-gatherers, the laying workers, and so on. We will endeavor to portray their several offices in the order named.

First, what is a wax-worker worker? A.—It is not a drone, but a worker-bee that gets so fat from using honey that it sweats wax in scales of about  $1/16$  of an inch in diameter, and as thin as common paper.

To produce one pound of this substance it is computed that the bee requires to consume about 15 pounds of honey; the wax, in scales as described, emerges through eight little pouches in the abdomen of the bee, from whence it is taken by its claws, handed to its mouth, and with its forceps worked into

and becomes part of the beautiful drone or worker-comb, as the case may be; if the former, there are 16 cells to the square inch, but if the latter, there are 25 to the same measurement.

The base of the cell is trilateral, comprised of three diamonds, the center protruding about  $\frac{1}{8}$  of an inch into the sides of the bases of cells which back it, gaining its depths just where they meet, and *vice versa*. By this system of nature the capacity for brood-rearing is fully utilized, so much so that the depth of comb containing brood only measures  $\frac{3}{4}$  of an inch; therefore, in less than one cubic inch they rear at one time 50 worker bees.

Just how they form their cells of either size so accurately, I am not prepared to say. We read that with their horns they feel, hear and smell, and I think it not unlikely that they use them also in measuring off the cells when under construction; though they smell through their antennæ, yet they have breathing apertures under the wings.

We pass on now to the second detachment, the nurses. Any intelligent reader will understand that the bee, while in its larval state, requires to be fed; this only lasts for six days; but imagine the queen in the busy season laying several thousand eggs every day, which, in three days from date of deposit, require the nurse's attention. At one time there will be from 12,000 to 20,000 of larvæ in one colony, requiring nursing, and they are said to be regular gormandisers.

The first week of the worker-bee's life after maturity, is devoted to one or both of the classes above cited, since we know for a fact that they do not take to field labor until at least six or seven days old.

Let us now notice the third class, the honey gatherers. If there is any one class more momentous than the other, it is the honey gatherers. The Creator of all things made this little insect not only to gather honey for its own use, but for food and medicine for man as well, which, while collecting, it rushes over the blossoms, thrusting its proboscis into every inviting tube, and while doing so becomes more or less coated with pollen from the stamens of the flowers visited, and in doing so carries fertilization to the several flower buds, otherwise we would have no apples, no plums, no currants, nor other small fruits, neither could the farmer be assured of clover seed without this kind act of the honey-bee, which may be considered a fair deal, seed and fruit for honey.

I might just mention that the bee will never visit the flowers of more than one

kind of plant on the same trip. It is hybridizing the clovers however. By what I have told you of this class of workers, you will observe that three branches of work is carried on by them at the same time, viz.: gathering honey, collecting pollen and carrying fertilization to where no other substitute can be found. The fourth class are laying workers.

. Poole, Ont.

## Bees and Bee-Keepers in New York.

ARIEL WELLMAN.

It seems to be a difficult task, at the present day, to write anything that will be of benefit to the average bee-keeper, especially readers of the AMERICAN BEE JOURNAL, although, if we are attentive to our business, we may see some things that every one "don't know."

I shall waste a great deal less paper, and shall try the patience of the reader less to tell a few things that I know, for it will not take half as much time to tell what I know as it would to tell what "I don't know" about bee-keeping.

At the time of taking my bees out of the cellar last Spring, I exchanged places with 2 colonies on the stands that they occupied in the Fall, and when they came out one colony went into the other hive, on the stand that they had occupied the Fall before.

I soon found them queenless, with no brood and no eggs—except in drone-comb, which was filled with eggs. I gave them eggs three times, but they dug them out and destroyed them every time. Just at that time I received a queen by mail, and having no place for the one superseded, I put her in with this colony to supersede the laying workers or drone-egg layers, and, contrary to all the advice that had been published to consign them to the brimstone pit, I concluded to try to keep them, and now they are a good colony, and are storing honey in the sections.

### SKUNKS IN THE APIARY.

One night during the Summer we heard our dog (which we keep chained near the bees) barking furiously. I went out and let him loose, and he went to a hive and pulled a skunk from under the alighting-board, gave it a shake, and it was soon dead. The next morning I cut its stomach open, and found it full of bees. We had transferred the bees from a box-hive a few days before, and some of them had persisted in stay-

ng under the alighting-board, and had built comb there, and so they aided in solving a difficult question.

Some writers claim that white clover will yield nectar the next season after a wet one. We have had three wet seasons in succession, and white and alsike clover covered the ground in some places nearly as thick as the blossoms could be, and not a bee on it during the greater part of the clover bloom.

One of my neighbors wished me to take charge of his bees during the Summer, and I went in the Spring to examine them, and found the sections that were put on the year before, still on the hives.

Some of the box-hives had the sections set flat on the top of the hives, under the caps; one frame-hive was filled from the bottom of the hive to the top of the cap—super, boxes, and all, and had been so all Winter. I do not know but it is so still, for he did not wish me to change it until they swarmed—I believe they have not swarmed yet.

Another of the knowing ones had 40 colonies last year, in box-hives, and some others that he made of dry goods boxes and odds and ends of old boards. This Spring he had 12 colonies or less.

When his bees swarmed this year, he hived them in those old box-hives, just as the bees had died in them last Winter, leaving the old combs—worms and all.

That kind of bee-keeping only occupies the bee-pasturage without doing any one any good.

South Berlin, N. Y.

### Points About the Punic Bees.

HENRY ALLEY.

I wish to say a few words concerning this new race of bees, as many of those who have read the description of them in the various bee-periodicals do not believe the statements concerning their good qualities. I now have these bees working in my apiary, and will stake my reputation on the statement that the glowing accounts of them are not in the least overdrawn.

They are certainly the tamest bees I ever saw. The queens are the hardest ever reared in the Bay State Apiary, and I have no doubt the workers are equally as hardy. So far as I have been able to test them, the claim for the hardest bees has been substantiated. The queens on the wing are as quick as a flash. When introducing a lot the

other day two escaped when shaken from the cage into the grass. They went into the air with lightning speed. It is seldom that any queen can escape from me in this way; but the Punic are too much for me. Below I give a few of the claims made for the Punic bees:

1. They do not fly into the snow like other bees.

2. They begin work before sunrise, and have the ground picked over before other kinds are on the move.

3. If the day is rather dull, or cool, they will be working in full blast, though no other kinds of bees will be flying.

4. The queens are very prolific.

5. In a fair season the smallest nucleus will build up without feeding into a grand colony for Winter. So much is this "building up" quality present in them, that a good, strong colony can be divided into 20 nuclei the end of May, and each will build in a good season without feeding, into a 10-frame colony, well stored for the Winter, and yield one or two 20-pound supers of honey from the heather.

6. They beat every other kind in their working energies.

7. They live longer than any others.

8. They fill and seal sections fuller, and cap them whiter than any other bees.

9. For extracted-honey they have no equal.

10. They can eat the hardest and dryest sugar; in fact, they will carry away the hardest and dryest sugar loaf (when no honey is to be had) put under a shed and kept as dry as possible.

11. Although they search out sweets and carry them off anywhere, they are not inclined to rob other hives—"honesty" being with them a ruling guide or principle.

12. They swarm earlier than any others.

13. They fill all cracks or chinks with an enormous quantity of propolis, and if natural supplies fail, nothing sticky comes amiss, such as bird-lime, coal tar, etc. Some may deny this as being a desirable quality, but with it they keep their combs clean, and they thus make anything do for hives—even baskets.

14. They cluster well on their combs, spread evenly over them, and shake off readily.

To sum up, we have a bee, docile, hard-working, prolific, non-robbing, and best for comb-honey. They have many other good points, that are more in favor of the queen-breeder, horticulturist, etc., than the honey-producer; this being the party to appreciate the



bee that does not sting, and will build up from 1 to 20, and possibly yield 1,000 pounds of surplus honey.

I have seen enough of these bees to satisfy me that every claim for them will be fulfilled to the letter. I shall winter 30 colonies of the Punic bees, and thus give their wintering qualities a good test.

Our friend Young, of Nebraska, says he will let some one else test them before he tries them. Well, that is all right; but supposing all kinds of business should be done in that way. Where would enterprise and progress come in? Friend Young will not have to wait more than one year to ascertain the experience of other people with Punic queens.

The best way to find out the qualities of a race of bees, the best bee-hive, or anything connected with the apiary, is to test them. Do not wait for other people's opinions.

Wenham, Mass.

### Description of a New Bee-Escape.

J. W. WILCOX.

Since a great many bee-keepers are trying bee-escapes, and succeeding more or less, permit me to relate what success I have had in the matter. After two seasons of experimenting with bee-escapes, I tried the following about two weeks ago, and found what I was seeking; namely, a "perfect escape"—one that will free a super, or supers, of bees in a very short time:

Make a rim the size of the super, and  $1\frac{1}{2}$  inches high; nail on a bottom of  $\frac{1}{4}$ -inch lumber; in one end of the rim, cut an opening 3 inches long and  $\frac{1}{4}$  wide, for bees to pass out, place this under your supers bottom down on the hive, with the escape-hole in the rim over the bee-entrance to the hive. Make a triangle of  $\frac{1}{4}$  inch strips large enough to reach from the escape-hole to the hive entrance; but do not join the apex of the triangle by one inch, but leave it for the bees to pass through, and into the hive. Over the triangle tack wire-cloth, and then fasten to the front of the hive, so as to cover the escape-hole in the rim, the opening in the triangle to connect with the hive-entrance.

When this is adjusted properly, it is a pleasure to see the bees come humming down the front of the hive from the escape-hole in the rim to entrance of the hive. With this escape I have had no

failure to entirely free the super of bees in an incredibly short time; and to adjust it requires very little more time than to put on a super. This triangle, covered with wire-cloth, will prevent robber bees from entering supers, and at the same time conduct the bees to the hive entrance below.

Scales Mound, Ills., Aug. 26, 1891.

### Did it Ever Occur to You?

E. L. PRATT.

That the Punic bees are truly wonderful, and are a constant surprise party, with their peculiar habits?

That if we all waited until a neighbor tried a thing, it would be uphill work to get anything new introduced, even if it had merit?

That enameled cloth and the like are nuisances about a hive?

That a flat board is better, and if the covers are as they should be (flat boards) nothing more is needed?

That if you wish to cure a colony of the palsy, turn salted syrup in the combs, and thus force the bees to take it up?

That the leading queen breeders will guarantee safe introduction of all queens another season?

That if you do not follow their directions, they will not be responsible in case of loss?

That the eastern bee-keepers have taken off a good crop of honey, and are selling it cheap?

That it is a waste of bees and money to have queens fertilized in large frame hives, even if they do hold but three combs?

That the size of the colony does not effect the quality of the queen that flies from it to be mated?

That it is as easy to introduce a virgin queen as a fertile one?

That to be successful in either, the bees should be deprived of their queen for 72 hours before introducing operations are commenced?

That tobacco smoke is a great aid in handling bees in bulk?

That it should never be used in examining colonies to ascertain their condition?

That transferred combs are better melted than saved for use in movable-frame hives?

That if all did this there would be

more wax on the market, and foundation would be cheaper?

That to condemn a bee simply because it is black is a grave error?

That the Punic bees are black, and they possess points never dreamed of in the "coming bee?"

That the best bee brush is made by cutting seven-eighths of the straws from a common 10-cent corn broom?

That it is folly to wire brood-frames at all?

That Prof. Cook has done much for the queen-breeders of the United States by getting queen bees admitted to the mails?

That the last combined efforts of the above named gentleman, and the editor of the AMERICAN BEE JOURNAL, in knocking off that senseless duty on queens from abroad, deserve our highest praise?

That if we could mail queens to England, the Indies, and other points in the Postal Union, our facilities would be complete?

That the new dovetailed winter case is too shallow?

That if it could be made three inches deeper, bees would winter better?

That if the cushion comes so near the cover the moisture will condense thereon, and thus ruin its only function—ridding the cluster of the steam?

That unless the cushion is dry all the time, the bees will winter poorly?

That *Gleanings'* new cover is very artistic, and shows the touch of a master-hand?

That Mr. Frank Benton holds a Government position under the Department of Agriculture at Washington, D. C.?

Beverly, Mass.

## Bees and Honey at the County Fair.

MR. EDITOR:—Many readers of the BEE JOURNAL will recollect an essay written by yourself and read at the last December meeting of the Northern Illinois Bee-Keepers' Association, entitled, "Bee and Honey Exhibits at Fairs."

Perhaps they will also remember an article, published later, stating what the above association had asked of the Winnebago County Agricultural Society, and also what the society had offered in premiums on bee and honey exhibits.

Our fair occurred last week, and I will state the result:

Mr. F. Kennedy took the blue ribbon (\$5.00) on display of comb-honey; S. H. Herrick taking the red ribbon.

Mr. Oliver Taylor took the blue ribbon (first premium) on display of extracted-honey; the red on sample of comb-honey; the blue on queen, drones, and workers in cage; beeswax, and bees in glass hive; also a special premium on honey vinegar.

Mrs. Chas. Winn took first premium on sample of comb-honey, and second on queen, drones, and workers in cage.

The cages of queens and the observation hive constantly drew admiring crowds. Those bees had little time to rest, as they had to be up and dressed all day long. The poor drones could not stand the racket, and were all dead by Thursday night.

Mrs. Taylor took a special premium—a silver cup—on honey pastry.

S. H. Herrick and Oliver Taylor competed for the prizes for "manipulation of bees," showing how to handle the frames, etc.

This was done on the speaker's stand, and before large audiences, on three different days, a short lecture on bees and honey being given by Mr. Herrick before each manipulation.

On Friday Mr. Herrick invited questions from the audience, promising to answer them to the best of his ability. Many questions were asked, showing that the audience were much interested in the subject.

Indeed, the whole exhibit of bees was a marked success. Now, friends, I will only add, "Go thou and do likewise."

BEE-KEEPER.

Rockford, Ills., Sept. 9, 1891.

## Convention Notices.

17 The Capital Bee-Keepers' Association will meet in the Supervisors' Room of the Court House, at Springfield, Ills., on Oct. 10, 1891, at 10 a.m.  
C. E. YOCOM, Sec., Sherman, Ills.

18 The Southwestern Wisconsin Bee-Keepers' Association will hold its next meeting on Wednesday and Thursday, Oct. 14 and 15, 1891, at Fennimore, Grant Co., Wis.  
BENJ. E. RICE, Sec., Boscobel, Wis.

19 The 5th semi-annual convention of the Missouri State Bee-Keepers' Association will be held at Sedalia, Mo., on Wednesday and Thursday, Oct. 7 and 8, 1891. Rates for those attending are promised at the Sticher and Kaiser Hotels at \$1.50 per day each. All persons so desiring are requested to make apianarian exhibits. A cordial invitation to attend the convention is extended to everybody.  
J. W. ROUSE, Sec., Mexico, Mo.

Clubs of 5 New Subscriptions for \$4.00 to any addresses. Ten for \$7.50.

**CONVENTION DIRECTORY.***Time and place of meeting.*

1891.  
 Oct. 7, 8.—Missouri State, at Sedalia, Mo.  
                   J. W. Rouse, Sec., Mexico, Mo.  
 Oct. 10.—Capital, at Springfield, Ills.  
                   C. E. Yocom, Sec., Sherman, Ills.  
 Oct. 14, 15.—S. W. Wisconsin, at Fennimore, Wis.  
                   Benj. E. Rice, Sec., Rosebel, Wis.

**✎** In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

**North American Bee-Keepers' Association**

PRESIDENT—P. H. Elwood....Starkville, N. Y.  
 SECRETARY—C. P. Dadant.....Hamilton, Ills.

**National Bee-Keepers' Union.**

PRESIDENT—James Heddon...Dowagiac, Mich.  
 SEC'Y AND MANAGER—T. G. Newman, Chicago.

**Bee and Honey Gossip.**

**✎** Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

**Honey of Fair Quality.**

Bees in this locality did not gather much honey this season, as the weather has been too dry all Summer. My 48 colonies, Spring count, cast 6 swarms, and stored about 500 pounds of comb, and about the same amount of extracted-honey, all of fair quality.

D. WEISSENBERG.

Stephensville, Wis., Sept. 9, 1891.

**Moving Bees.**

I left Davenport, Iowa, on July 20, with 51 colonies of bees, and my entire manufacturing outfit. I came on the river as far as Johnsonville, Tenn., and transferred to the railroad. I was on the road five days and four nights. I lost 17 colonies of bees, and 200 or more combs were broken down. I can speak as to the honey resources of this country only as I am told, but will write after I have tried it awhile myself. I see lots of white clover here, but it is out of bloom for this year. I put a 5-inch cap on top of the brood-frames, but the bees suffered from the heat anyhow. Some of the hives were closed 14 days, and the bees came out all right.

Nashville, Tenn. C. K. READING.

**Only a Fair Crop.**

The honey harvest, in this locality, is over for this year, and the yield has been fair. Spring count gave me 37 colonies of bees, in good condition, which increased to 56 colonies, and gave me 3,500 pounds of extracted-honey, about equally divided between basswood and buckwheat.

C. D. ROBINSON.

West Groton, N. Y., Sept. 2, 1891.

**Foundation Fastening.**

I have used Beeson's hot-tongued Foundation Fastener with the greatest satisfaction. It fastens the foundation neatly, securely, quickly, and always in the right place. Indeed, I could suggest no improvement unless it would be to add a little to the size of the table to hold the pieces of foundation. As a foundation fastener, it is simply perfect.

Loveland, Colo.

J. A. FERGUSON.

**White-Headed Drones.**

I mail you to-day two white-headed drone bees, in a Benton cage. If they are something new, I would like if you could tell me what you think of them, in the AMERICAN BEE JOURNAL. There are four in the hive. Their mother was a young Italian queen that proved to be only a drone layer. If you think they could be reproduced, I will give all I have of them to any person that can give it a fair test.

HENRY PATTERSON.

Humboldt, Nebr., Aug. 17, 1891.

[Prof. Cook's article on abnormal bees, published in this issue, will answer the above, as well as prove interesting to our readers generally.—Ed.]

**Illinois State Association.**

Since I last wrote you, I have received initiation fees for five new members to our Illinois State Bee-Keepers' Association. Four of them were members of A. N. Draper's family (our treasurer), of Upper Alton, and all females. The first female members of our association, also the oldest and youngest members, were Mrs. Rachel Draper (A. N. Draper's mother), aged 77 years; his wife, Mrs. Amelia C.; his daughters, Rachel C. and Clara M. The latter was born Aug. 3, 1891. The other new member is D. A. Cadwallader, of Prairie du Rocher, Ills. He writes me that he was induced to



join by A. N. Draper's article in the BEE JOURNAL, relating to the honey exhibit at the Columbian Fair. At this rate of increase we will soon have quite a membership. I must have made a mistake in dates. The date of our meeting at the fair was on Tuesday, Aug. 8, instead of the 9th.

JAS. A. STONE, Sec.  
Bradfordton, Ills., Aug. 29, 1891.

#### Progressive Ideas.

Mr. C. J. Robinson has searched the back numbers of the different bee-periodicals for the purpose of picking up little contradictory points of no special value, and flinging them at me in a spiteful way. I could, perhaps, find in the old volumes of the bee-periodicals, many statements that conflict with my present way of thinking. Does Mr. Robinson always hold the same ideas?

Beverly, Mass.

E. L. PRATT.

#### Punic Bees.

In the BEE JOURNAL for Aug. 6, page 168, you acknowledge receiving samples of Punic bees from E. L. Pratt, Beverly, Mass., which has the look, and may lead people to think he is importing *direct* from Africa, and as the difficulties of doing so are so great, most people are likely to judge him falsely; so allow me to explain that I have sent him imported Punic queens, which were repacked with fresh worker-bees here, and sent to him; so that he has true imported Punic breeding stock. Friend Pratt wrote to me to send him queens as soon as he saw how I praised them, and was most impatiently awaiting their arrival. Americans can thus get pure blood Punic queens from him, if they wish.

A HALLAMSHIRE BEE-KEEPER.  
Sheffield, Eng.

#### Treating Foul-Brood.

Bees in this locality came through the Winter in fine condition, and we had excellent prospects for a good honey yield. White clover never looked more promising, but about the time it began to yield nectar, the honey-dew appeared, and the consequence was that we had a big lot of poor honey. Bees have commenced to work on the aster. It generally yields enough honey to help them through the Winter, but no surplus. I have kept bees for over 20 years, and never had a case of foul-brood among

them until last year, but they have got it now, and got it bad, too, and I cannot tell where it came from. I am treating them on the starvation plan, selecting the colony that was in the worst condition to commence on, and it is now rearing young, healthy bees, with no sign of foul-brood about them. I fully realize that I have a bad job on my hands, but it is kill or cure, and when I get through with it, or it gets through with me, I will make a report.

J. G. CREIGHTON.  
Preston, O., Sept. 7, 1891.

#### Bombus.

Please tell me, through the AMERICAN BEE JOURNAL, what kind of bee this is. I found it in an old hive, from which I was transferring bees to a new hive. The bee was dead on the bottom-board. I am a novice at bee-keeping. Bees are not doing well in this locality on account of dry weather.

ALF. VOLK.  
Gillett, Wis., Aug. 13, 1891.

[The large, black, hairless bee from Mr. Volk, of Gillett, Wis., is a specimen of bumble-bee—*bombus*—which got into the hive and could not get out. The bees probably killed it, and then tried to drag its great carcass out, which they could not do, but in the effort pulled out all the hair. If the bee had not been removed, they would very likely have covered it with propolis. I presume the bumble-bee got in while the hive was opened, on some previous day.—A. J. Cook.]

#### Fine White Comb-Honey.

Our county fair is now in progress, and Mrs. Reeves entered comb and extracted-honey, and beeswax. She took first premium on comb-honey, first and second premiums on extracted-honey, and first and second premiums on beeswax. My comb-honey, this year, is the finest I ever saw, being so white that it is almost transparent. My bees in small hives stored about four times as much as those in the simplicity hive, consequently I am forced to believe the 8-frame hive the best, and the surplus chamber is much more preferable, as it is so easy to remove the sections. The Fall honey-flow has not yet begun here.

IRA REEVES.  
Carmi, Ills., Sept. 4, 1891.

## Wavelets of News.

### An Umbrella in the Apiary.

An umbrella, to catch up and carry around with me whenever my hands are at liberty, is one of my greatest comforts. On extremely hot days we always have them handy, and I often make use of them, in swarming time, to hive bees. Our queens all have wings clipped, but the swarms will sometimes cluster, and although I know they will return in time, I do not wait long, but take a few from the cluster, and start them in.

As our trees are mostly small, they can usually be reached from the ground or with a step-ladder. I often turn my umbrella upside down and shake part of the cluster in it, and take them to the hive where the queen is.—*Gleanings.*

### Idleness Demoralizing.

Recently I had a great inclination to work among the bees; I had not been stung for so long that I was lonesome for their company. So I lighted a bellows smoker, put on my hat and gloves, and went into their shady retreat under the big ash.

I carefully uncovered a hive, and puffed in a little smoke to intimidate the bees, but it did not intimidate them in the least. In lieu of them thinking their house was on fire, and that they must save all they could of its contents, they flew out in a swarm and assailed me. I could hear them cracking against my hat, and uttering vengeance against the disturber of their home. I covered them up as quickly as possible and beat a retreat, shooting smoke in all directions with a vim. They followed, not caring for my ammunition, and I sought shelter among the leafy branches of a tree.

What had changed my docile Italians into such fiends? Idleness.—Mrs. L. HARRISON, in the *Prairie Farmer*.

### The Honey Crop.

Latest news from a large part of the country does not give a very flattering prospect of a large crop of white honey. The weather was so cold in many places during the basswood blossoming season the bees scarcely left their hives on many days, and clover had yielded poorly.

What was still worse, honey-dew, of the blackest kind, was so mixed with the white honey in the sections as to nearly

or quite ruin it for table use. In some sections of country fair crops of surplus are reported, and I would advise those who succeeded in obtaining good white comb-honey to be cautious about rushing it to market and selling at a low price.


There are bee-keepers who generally try to beat the other fellow by getting their honey to market before any one else. This might get them a fair price, if it was not for the fact that nearly all bee-keepers are smart people, act in the same way, and this brings all the honey into the city markets early in the season, glutting the markets before the popular demand for honey has come, and starting the product at a low price, from which it never recovers. We never rush our honey to market very early, and shall not do so this year. The crop at the Forestville apiary promises to be reasonably good.—B. TAYLOR, in *Farm, Stock and Home*.

### Feeding Uncapped Honey.

It sometimes occurs during Autumn that we have quite a lot of combs of uncapped honey, and also some sections left. It is very desirable to feed such honey to the bees, as it cannot conveniently be kept over until next year.

It will be found a pretty hard matter to get the bees to remove this honey from the combs, for if you put it in the hive, or in the upper story, they allow it to remain as it is. We have tried different plans to get them to take this honey, but it seems that it cannot be successfully done, unless the combs are exposed to the whole apiary. This plan, however, brings on robbing, and greater difficulties than before are met with.

When frames are well filled with this honey, we exchange them for lighter ones, which may be found in nearly every hive; and to clean up the job, we extract all honey, both frames of comb and sections. For extracting sections, we use a wire box to hold about eight at one time. It is a difficult matter to keep sections partially filled with honey over until another season, and this arrangement for extracting them is very convenient. Sections kept over, partially filled with honey, should not be placed on the hive in this condition, for such will not produce nice honey in the comb.—D., in *National Stockman*.

 The sewing machine I got of you still gives excellent satisfaction.—W. J. PATTERSON, Sullivan, Ills.

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